27th Annual Report

ptor Nesting Success

in the National Forests of the Eastern Region

Bald Eagle ~ Osprey ~ Peregrine Falcon

UNITED STATES DEPARTMENT OF AGRICULTURE FOREST SERVICE **EASTERN REGION** **MILWAUKEE, WI**

1989

FORWARD

This 27th Annual Report on the status of the Eastern Region's Bald Eagles and Ospreys is a significant step in the long-term monitoring of population trends of these species on the National Forests. We are pleased to report that populations of both species continue to increase. The status of peregrine falcons on the Forests is also reported for the first time in this document.

This survey is part of a continuing multi-agency effort to follow and better understand relationships between wildlife habitat and other environmental influences. These surveys provide not only consistent trend information, but also demonstrate that this kind of monitoring is practicable. We are confident that these efforts will improve communication, strengthen our information base, and clarify options for integrating the management of eagle and osprey habitat with other National Forest uses.

Robert Spicer
for Floyd J. Marita
Regional Forester, Eastern Region
USDA Forest Service

CARING FOR THE LAND AND SERVING PEOPLE

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CARING FOR THE LAND AND SERVING PEOPLE

BALD EAGLE-OSPREY-PEREGRINE FALCON NESTING REPORT
USDA-FOREST SERVICE - EASTERN REGION

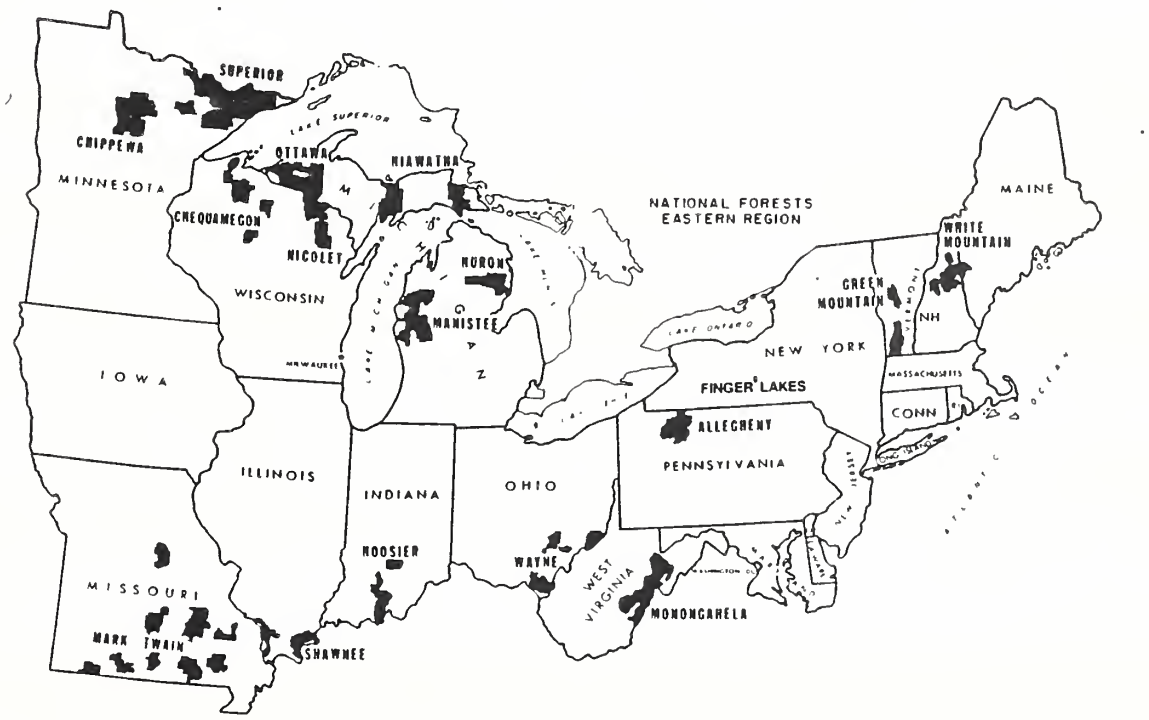
1989

The breeding activities of bald eagles and ospreys have been monitored on the Eastern Region National Forests for the past 27 years. Aerial surveys are conducted in April and May to determine breeding activity. Productivity surveys are conducted in July to count the number of young eagles and ospreys produced at occupied nest sites.

Survey methods were consistent for the years 1974 through 1984. In 1985 the Superior NF suspended the aerial productivity survey within the Boundary Waters Canoe Area Wilderness (BWCAW) to avoid conflicts with wilderness values. Since 1986 the Superior NF has conducted the aerial occupancy survey both within and outside the BWCAW from ground and water reconnaissance only.

There are two problems associated with ground and water reconnaissance for productivity surveys: 1) few additional nests are located, and 2) the number of young appears to be underestimated. Statistical validity is being analyzed by the USDI-Fish and Wildlife Service but the results are not yet available.

A program to reintroduce peregrine falcons to certain Eastern Region Forests has been conducted since 1976. The White and Green Mountain NF's had one to two hack sites for peregrine falcons from 1976 to 1987. The Superior NF had one hack site for peregrine falcons from 1984 to 1988. The Monongahela NF and the Ottawa NF hacked peregrine falcons during 1988 and 1989 at two and one sites respectively.



BALD EAGLE

Bald eagle nesting activity has steadily increased over the past 27 years within the Eastern Region Forests. Both the number of successful nests and young produced also has increased during this time period. Productivity per successful nest and per occupied nest has remained stable over the past decade.

Nine of the fourteen Region 9 Forests had breeding bald eagles in 1989. During the April survey a total of 398 active breeding areas encompassing 545 nests were monitored within National Forests Lands. A breeding area is defined as an area associated with one territorial pair of eagles and containing one or more nest structures. This represented an increase of 28 breeding areas and 37 nests located in 1989 as compared to 1988.

Eagles occupied 317 of the 545 nests. During 1988 eagles occupied 295 of 528 verified nests. A nest is designated as occupied if an eagle appears to be incubating, eggs are laid, young are observed, a pair of eagles is present, an adult and a bird in immature plumage are observed at or close to the nest, the nest shows evidence of repair, or a nest is newly constructed.

The productivity survey in July found 223 of the 317 occupied nests to be successful containing a total of 361 young eagles. A nest is successful if at least one young is fledged during the current breeding season or is raised to near fledging age.

During both 1988 and 1989 eighty percent of all nests surveyed were occupied by eagles and 70 percent were successful. The number of young produced per successful nest was 1.6 during both years. However the number of young produced per occupied nest increased from 1.10 in 1988 to 1.13 in 1989.

The Chippewa NF, with 143 occupied nests, had the greatest number of breeding bald eagles followed by the Superior NF with 69 occupied nests. The Mark Twain NF and the Monongahela NF each had one pair of breeding bald eagles.

The Hiawatha, Ottawa, Chippewa, Superior, Monongahela, and Chequamegon National Forests all had a similar or greater number of occupied and successful nests in 1989 as compared to 1988. Additionally more young were produced on all of these forests in 1989 than 1988.

Of particular note is the nesting activity and production on the Ottawa NF. During the two previous years the number of occupied nests and young produced had declined. In 1989 this forest had an increase of nine occupied nests and produced six more young than in 1988. Productivity per nest was somewhat lower in 1989 than previous years.

The Huron-Manistee, Mark Twain, and Nicolet National Forests all had a small reduction in the number of occupied nests and young produced in 1989.

The total recovery objective for occupied breeding areas in Region 9 Forests is 428. In 1989 a total of 317 nests were occupied or 74 percent of the recovery objective, as compared to a 69 percent recovery attainment in 1988.

The Monongahela NF attained 100 percent of its recovery objective with one occupied breeding area while the Chippewa NF met 95 percent of its recovery objective with 143 occupied breeding areas. The three forests that have a recovery objective of one to two occupied breeding areas for bald eagles but still have no breeding bald eagles include the Allegheny, Shawnee, and Wayne-Hoosier.

It has become apparent recently that productive success of bald eagles nesting within three to five miles of the Great Lakes is extremely low. This has been attributed to high levels of DDE, PCB's, and mercury in the Great Lakes. As a result of these data the International Joint Commission has decided to use the bald eagle as a management indicator species to monitor possible effects of contaminants in the lakes.

OSPREY

There has been an overall increase in osprey nesting activity within Region 9 Forests during the past 27 years. However the number of successful nests and productivity has remained stable or declined in recent years.

Of the 14 Forests in Region 9, six had breeding ospreys in 1989. Two nests were monitored on the Huron-Manistee NF but were not occupied. A total of 416 osprey nests were located on these Forests in 1989, two less than verified in 1988. Of the 416 osprey nests surveyed in April 1989, 259 were occupied by ospreys. This represented an increase of eight occupied nests from 1988.

The number of successful osprey nests declined in 1989 to 114 nests or 44 percent of all occupied nests. In 1988 a total of 147 nests or 59 percent of all occupied nests were successful and 157 or 62 percent of all occupied nests were successful in 1987.

While the total number of young produced per successful nest remained similar to previous years at 1.7 young per nest, the number of young produced per occupied nest declined from 1.02 per nest in 1988 to 0.76 per nest in 1989.

The Chippewa NF had the greatest number of occupied nests at 149. This was an increase from 139 occupied nests recorded in 1988. While the number of successful nests declined from 65 in 1988 to 61 in 1989, the number of young produced increased from 107 to 114.

The Ottawa NF also had increase in number of occupied nests from four in 1988 to eight in 1989. Five nests were successful and six young were produced in 1989 as compared to two successful nests and two young produced in 1988.

While the Hiawatha, Chequamegon, and Nicolet National Forests also had an increase in the number of nests occupied by ospreys in 1989, all of these Forests had decreases in successful nests and young produced as compared to 1988 data. The Hiawatha NF had ten fewer successful nests and produced 21 less young. The Chequamegon NF had one less successful nest and produced four less young and the Nicolet NF had nine fewer successful nests and produced 20 less young.

The Superior NF, which has the second greatest number of breeding ospreys on Region 9 forests, had a decline in occupied nests, successful nests, and young produced. The number of successful nests declined from 40 in 1988 to 28 in
1989. Seventy-two young were produced in 1988 as compared to 46 young produced in 1989. Part of the reason that productivity seemed low on this Forest in 1989 is because one district did not conduct a productivity survey as personnel and aircraft were dispatched to a western fire detail.

PEREGRINE FALCON

A total of 252 young peregrine falcons have been dispersed from five of the Region 9 Forests since 1976. This includes a total of 230 young birds dispersed from hack sites and 22 young birds produced from established pairs.

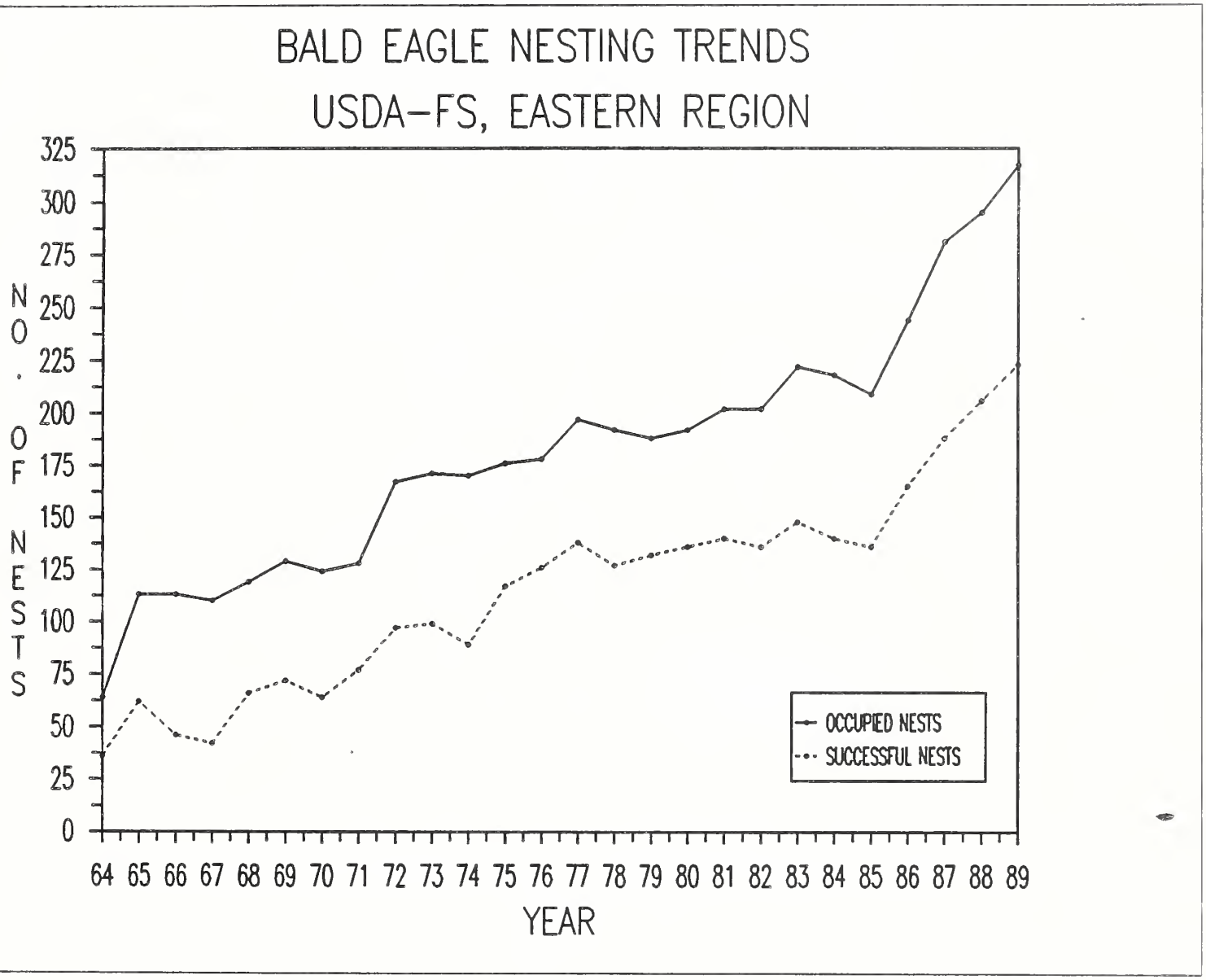
The White Mountain and the Green Mountain National Forests have hacked the greatest number of peregrine falcons in Region 9 with 88 birds and 71 birds released respectively. Other forests did not begin hacking peregrine falcons until 1984 when the Superior NF released five birds. The Monongahela and the Ottawa National Forests began hacking peregrine falcons in 1988. Both the White and Green Mountain National Forests ended their hacking programs in 1987 and the Superior NF did not release birds in 1989.

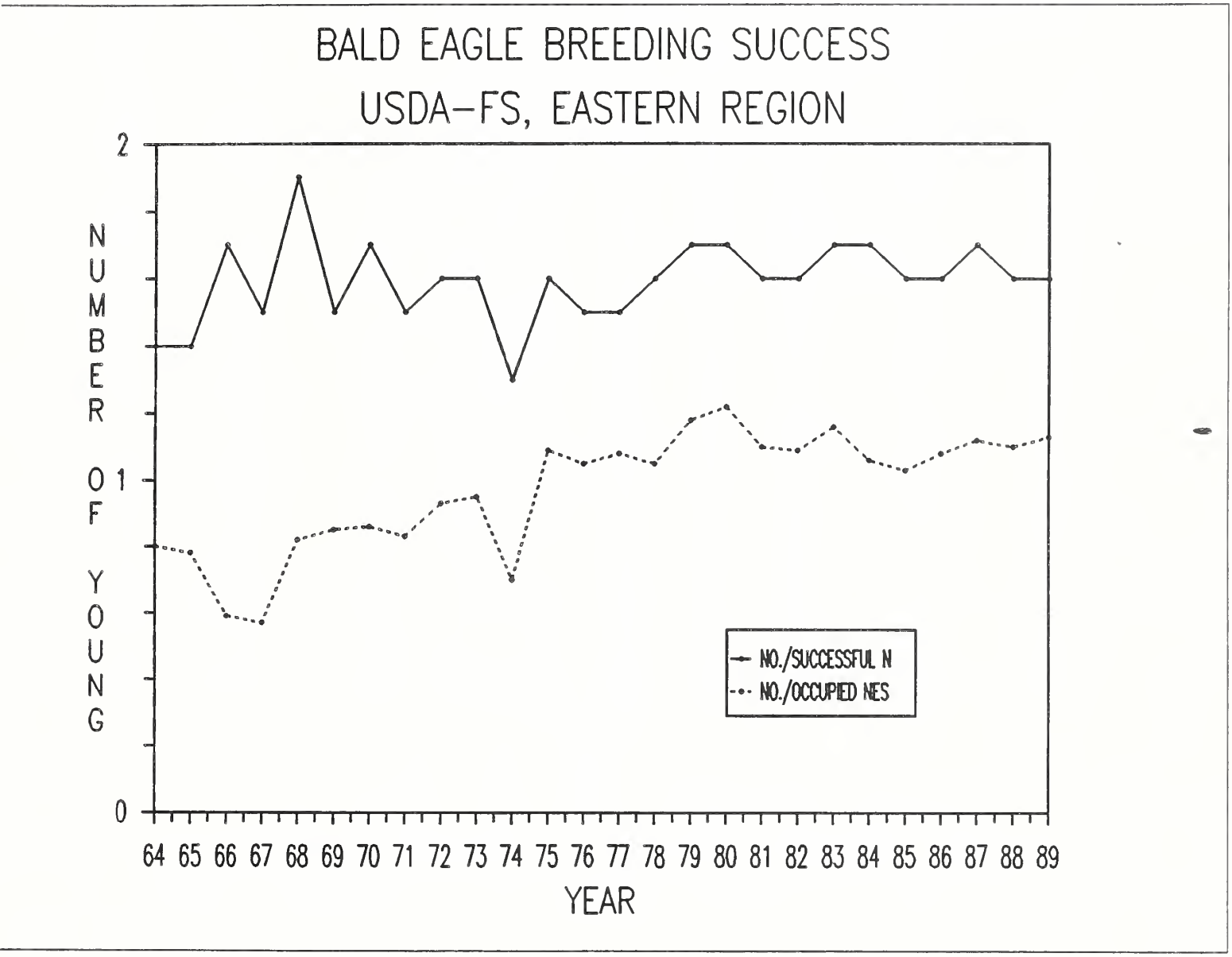
The White Mountain NF has a 2000 year recovery objective of 10 established pairs. In 1989 six birds were established on the Forest. The Green Mountain has a recovery goal of six established pairs and currently has one breeding pair. The Superior NF has met its recovery objective of two established pairs. The Monongahela NF has a recovery goal of ten breeding pairs, the Ottawa and Shawnee NF's have a recovery goal of two breeding pairs and the Chippewa NF has a recovery goal of one breeding pair. None of these Forests have established breeding pairs at present.

Twenty-one of the 22 young birds produced by established pairs have been on the White Mountain NF. The Superior NF produced one young bird from an established pair in 1989.

It should be noted that this program has contributed to the increase of peregrine falcons in the East. Some birds that have been hacked from the Forests are establishing themselves at Off-Forest sites. For example a peregrine falcon hacked from the White Mountain NF was later identified as a breeding adult in New York city.

BALD EAGLE


BALD EAGLE NESTING TRENDS
USDA–FS, EASTERN REGION
NO. OF NESTS
325
300
275
250
225
200
175
150
125
100
75
50
25
0
64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89
YEAR
OCCUPIED NESTS
SUCCESSFUL NESTS

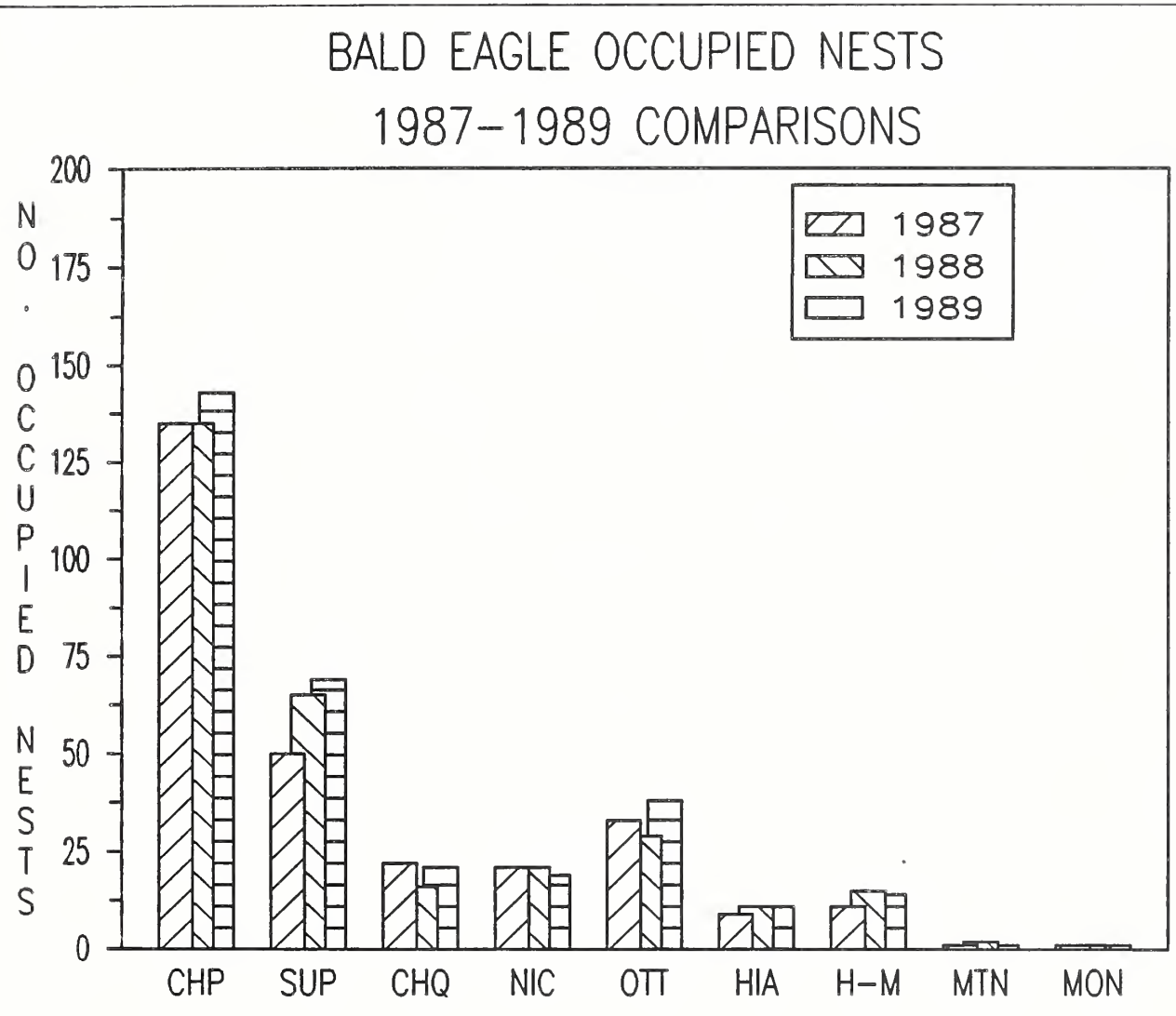

BALD EAGLE BREEDING SUCCESS
USDA-FS, EASTERN REGION
NUMBER OF YOUNG
2
1
0
64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89
YEAR
NO./SUCCESSFUL N
NO./OCCUPIED NES

BALD EAGLE NESTING TRENDS

USDA-FOREST SERVICE, EASTERN REGION

YEAR	VERIFIED NESTS	BREEDING AREAS	OCCUPIED NESTS		SUCCESSFUL NESTS		YOUNG		
			No.	%	No.	%	No.	Per Successful Nest	Per Occupied Nest
1964	156		64	50	36	56	51	1.4	.80
1965	204		113	63	62	55	88	1.4	.78
1966	265		113	57	46	40	67	1.7	.59
1967	304		110	53	42	38	63	1.5	.57
1968	323		119		66	55	98	1.9	.82
1969	344	166	129	78	72	56	109	1.5	.85
1970	294	189	124	66	64	52	107	1.7	.86
1971	327	188	128	68	77	56	115	1.5	.83
1972	356	238	167	70	97	58	155	1.6	.93
1973	382	264	171	65	99	58	163	1.6	.95
1974	381	257	170	66	89	52	119	1.3	.70
1975	398	285	176	62	117	67	192	1.6	1.09
1976	414	260	178	68	126	71	187	1.5	1.05
1977	421	265	197	75	138	70	212	1.5	1.08
1978	435	264	192	73	127	66	202	1.6	1.05
1979	432	269	188	70	132	70	222	1.7	1.18
1980	.456	282	192	68	136	71	235	1.7	1.22
1981	458	277	202	73	140	69	223	1.6	1.10
1982	446	288	202	70	136	67	220	1.6	1.09
1983	459	296	222	75	148	67	257	1.7	1.16
1984	458	294	218	74	140	64	231	1.7	1.06
1985	453	314	209*	67	136*	65	216*	1.6	1.03
1986	451	321	244	76	165	68	263	1.6	1.08
1987	518	368	281	77	188	67	315	1.7	1.12
1988	528	370	295	80	206	70	325	1.6	1.10
1989	545	398	317	80	223	70	361	1.6	1.13

* Eagle nests in the BWCAW were not surveyed for success. From 1986 to present the productivity surveys were conducted from ground and water reconniassance only.


BALD EAGLE OCCUPIED NESTS
1987–1989 COMPARISONS
NO. OCCUPIED NESTS
200
175
150
125
100
75
50
25
0
1987
1988
1989
CHP
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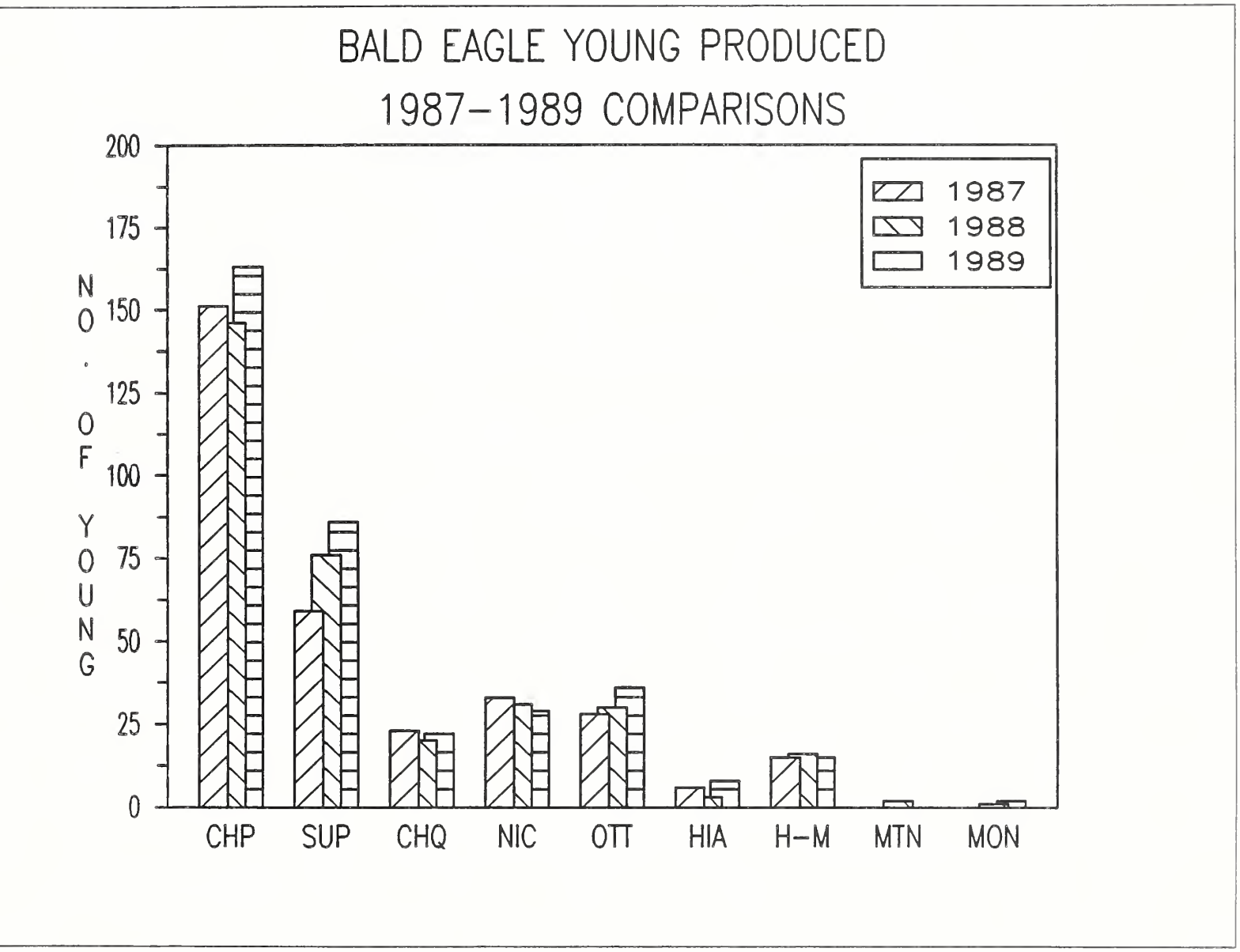

BALD EAGLE YOUNG PRODUCED
1987–1989 COMPARISONS
NO. OF YOUNG
200
175
150
125
100
75
50
25
0
1987
1988
1989
CHP
SUP
CHQ
NIC
OTT
HIA
H–M
MTN
MON

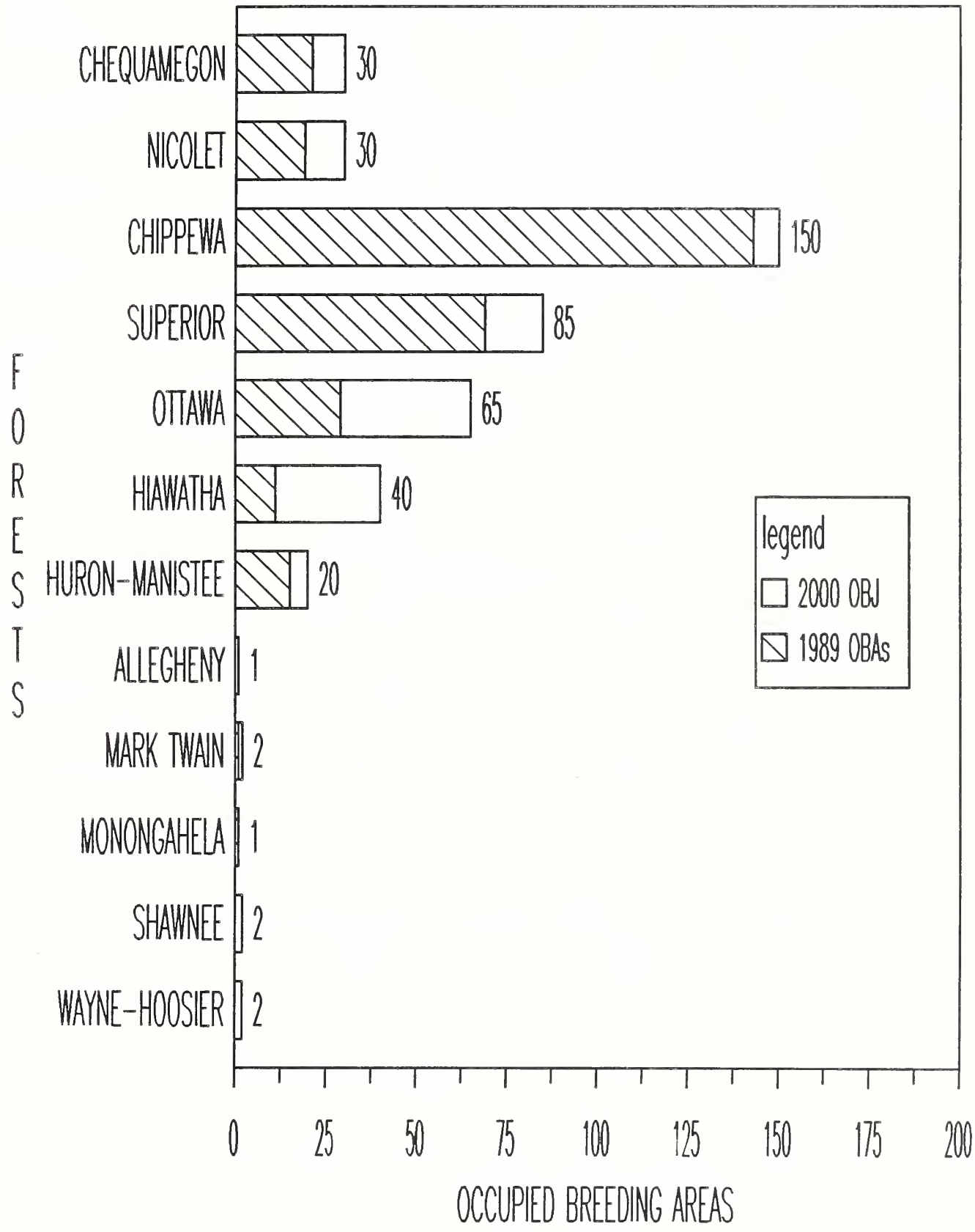
BALD EAGLE NESTING STATUS - 1989

USDA-FOREST SERVICE, EASTERN REGION

Forest and STATE	VERIFIED NESTS 1988	1989	AREAS OBSERVED	OCCUPIED NESTS	SUCCESSFUL NESTS	YOUNG PRODUCED
Hiawatha	11	12	14	11	5	8
Huron-Manistee	27	32	18	14	9	15
Ottawa	78	76	44	38	29	36
MICHIGAN	116	120	76	63	43	59
Chippewa	238	241	169	143	97	163
Superior	96	109	90	69	53	86
MINNESOTA	334	350	259	212	150	249
Mark Twain	2	2	2	1	0	0
MISSOURI	2	2	2	1	0	0
Monongahela	1	1	1	1	1	2
WEST VIRGINIA	1	1	1	1	1	2
Chequamegon	38	37	34	21	14	22
Nicolet	37	35	26	19	15	29
WISCONSIN	75	72	60	40	29	51
REGION TOTALS	528	545	398	317	223	361

R-9 BALD EAGLE RECOVERY

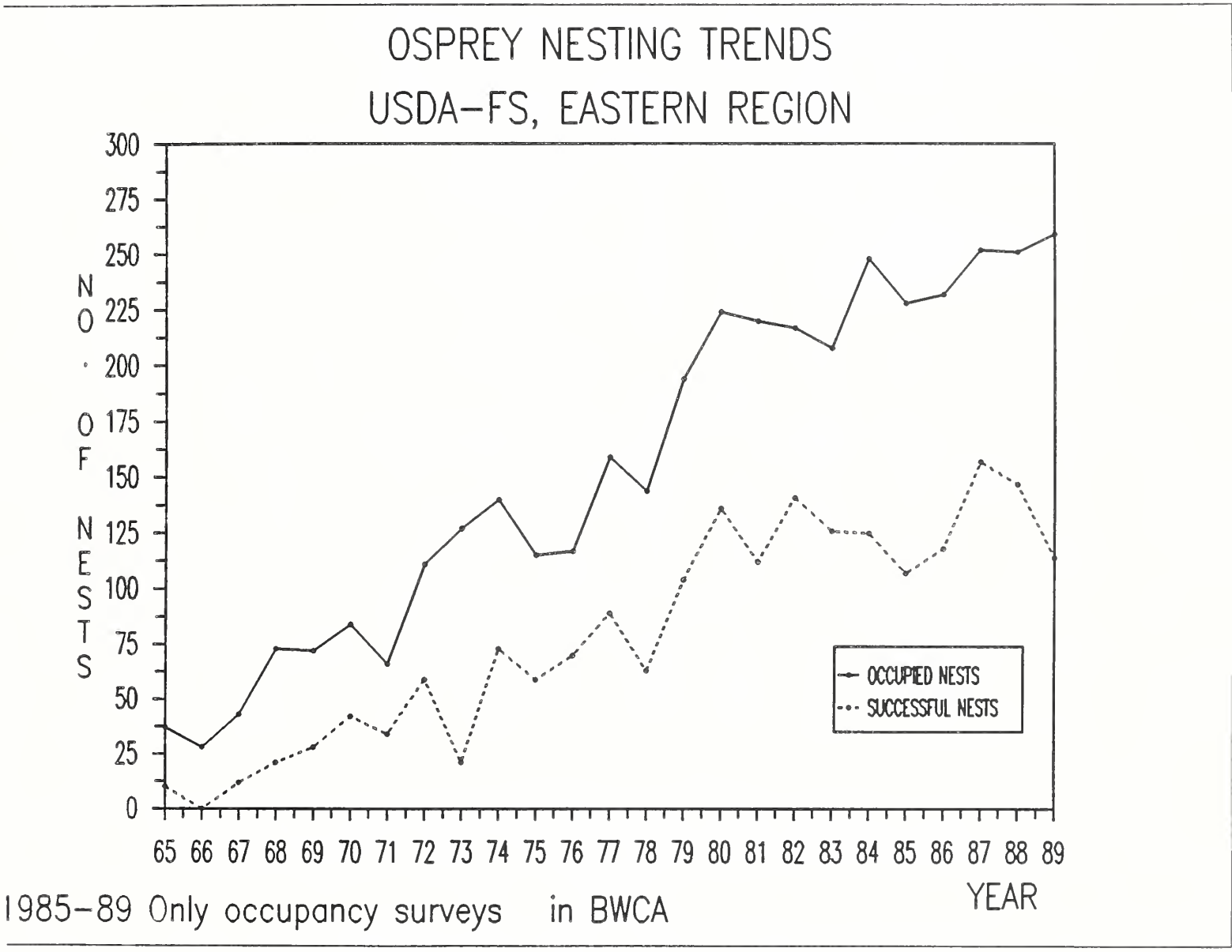
ATTAINMENT OF OBJECTIVES

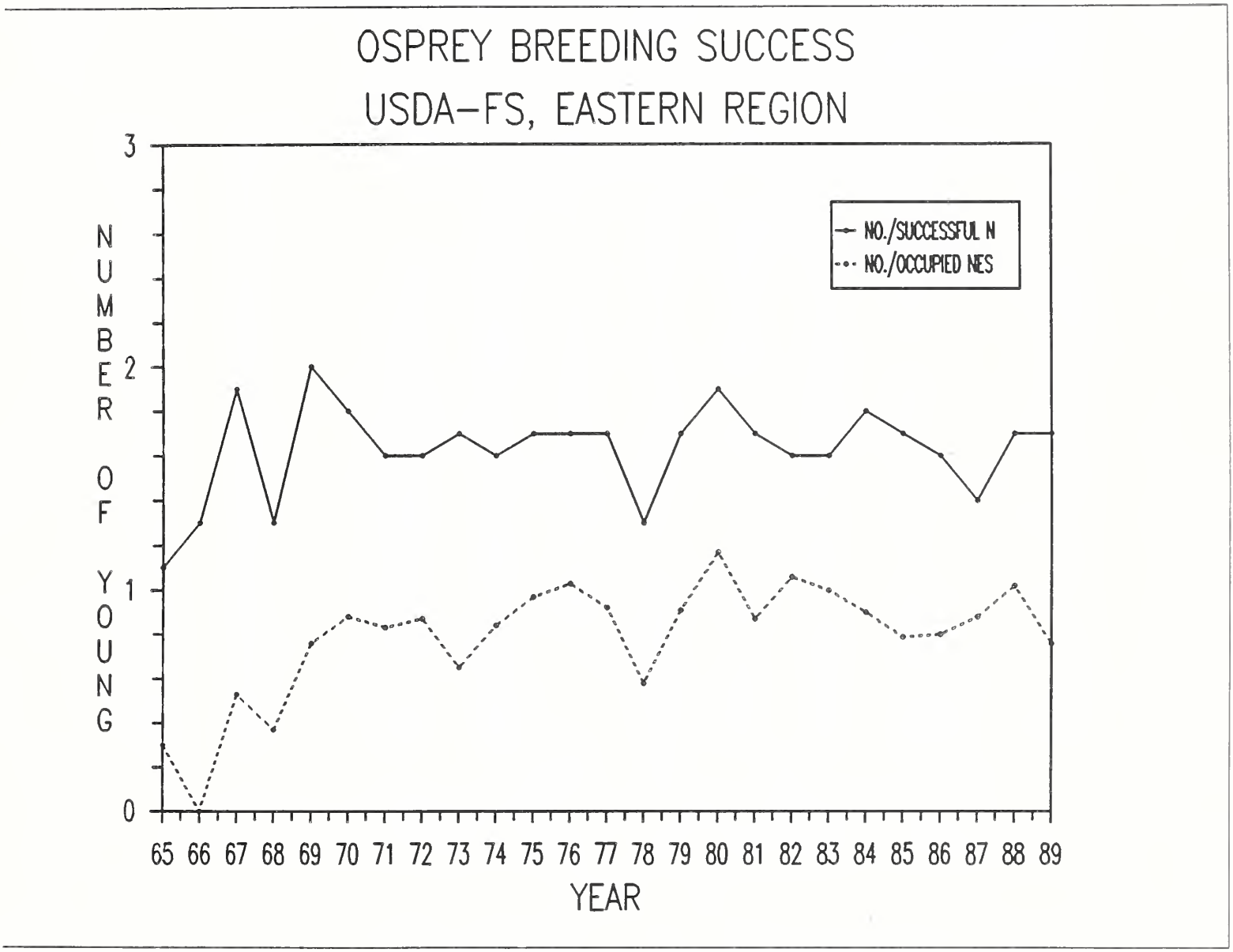


BALD EAGLE RECOVERY ATTAINMENT

FOREST	1989 OBA'S	RECOVERY ATTAINMENT	PERCENT ATTAINMENT
Allegheny	0	1	0
Chequamegon	21	30	70
Chippewa	143	150	95
Hiawatha	11	40	28
Huron-Manistee	14	20	70
Mark Twain	1	2	50
Monongahela	1	1	100
Nicolet	19	30	63
Ottawa	38	65	58
Shawnee	0	2	0
Superior	69	85	81
Wayne-Hoosier	0	2	0
Regionwide	317	428	74

OSPREY


OSPREY NESTING TRENDS
USDA–FS, EASTERN REGION
NO. OF NESTS
300
275
250
225
200
175
150
125
100
75
50
25
0
65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89
YEAR
OCCUPIED NESTS
SUCCESSFUL NESTS
1985–89 Only occupancy surveys in BWCA


OSPREY BREEDING SUCCESS
USDA–FS, EASTERN REGION
NUMBER OF YOUNG
0
1
2
3
NO./SUCCESSFUL N
NO./OCCUPIED NES
65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89
YEAR

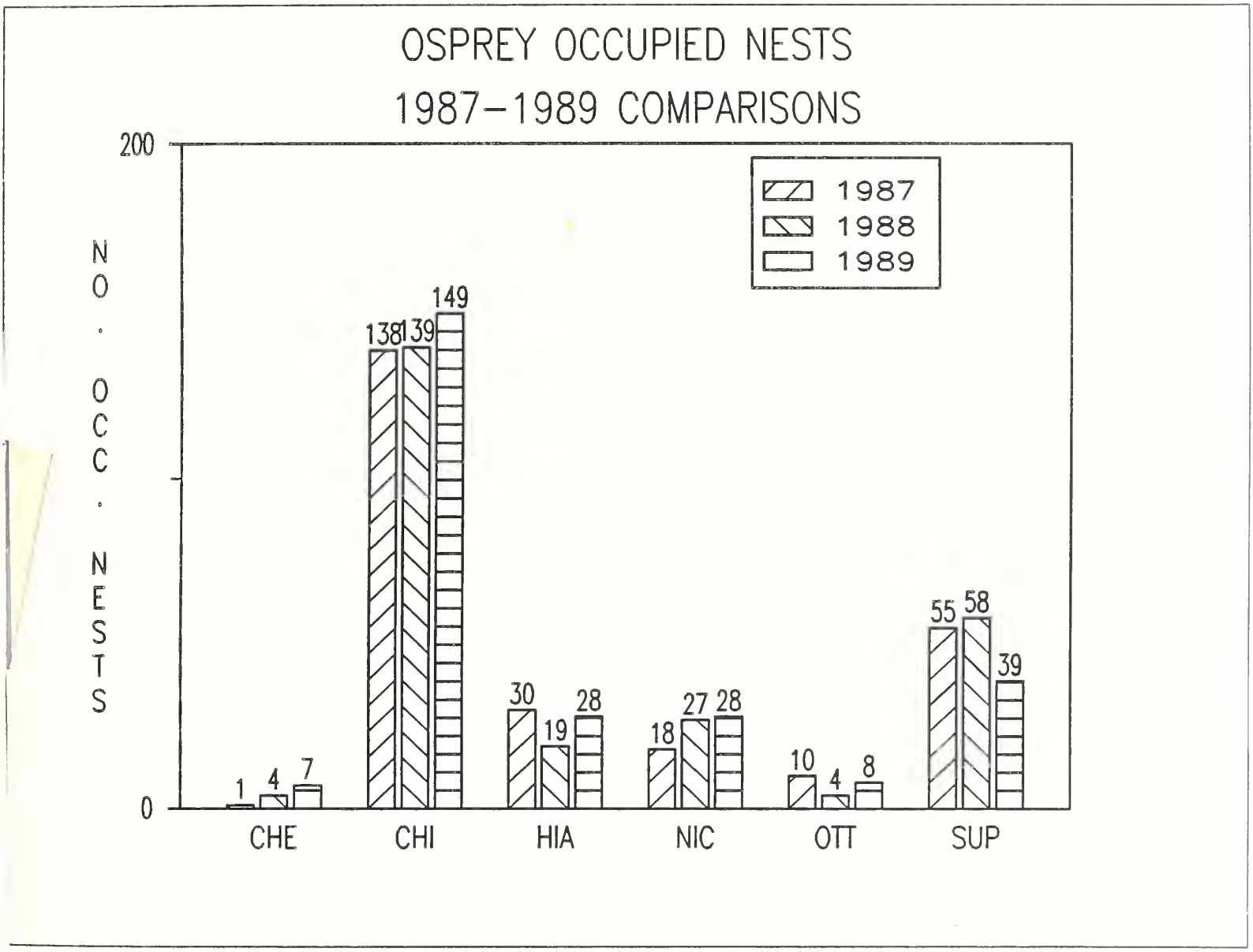
OSPREY NESTING TRENDS

USDA-FOREST SERVICE, EASTERN REGION

YEAR	VERIFIED NESTS	TERRITORIES OBSERVED	OCCUPIED NESTS		SUCCESSFUL NESTS		YOUNG PRODUCED		
			No.	%	No.	%	No.	Per Successful Nest	Per Occupied Nest
1965	79		37	59	10	27	11	1.1	.30
1966	94		28	45			5	1.3	
1967	137		43	61	12	28	23	1.9	.53
1968	152		73		21	29	27	1.3	.37
1969	183		72		28	39	55	2.0	.76
1970	157	93	84	90	42	50	74	1.8	.88
1971	140		66		34	52	55	1.6	.83
1972	205	130	111	85	59	53	97	1.6	.87
1973	226	154	127	82	21	38@	36	1.7	.65@
1974	252	140	140	100	73	52	118	1.6	.84
1975	238	157	115	73	59	51	102	1.7	.97
1976	249	154	117	76	70	60	120	1.7	1.03
1977	254	197	159	81	89	56	147	1.7	.92
1978	316	193	144	75	63	44	84	1.3	.58
1979	303	304	194	64	104	54	176	1.7	.91
1980	305	308	224	73	136	61	262	1.9	1.17
1981	307	314	220	70	112	51	192	1.7	.87
1982	320	294	217	70	141	65	229	1.6	1.06
1983	357	321	208	65	126	61	207	1.6	1.00
1984	343	327	248	76	125	50	222	1.8	.90
1985	309*	355*	228*	64	107*	47	181*	1.7	.79
1986	327*		232		118	51	185	1.6	.80
1987	379		252		157	62	222	1.4	.88
1988	418	317	251		147	59	257	1.7	1.02
1989	416		259		114	44	197	1.7	.76

@ Chippewa NF incomplete data excluded from calculations.

* In 1985 Osprey nesting surveys were not conducted in the BWCAW. From 1986 to present productivity surveys were conducted from ground and water reconnaissance only.


OSPREY OCCUPIED NESTS
1987–1989 COMPARISONS
200
0
NO. OCC. NESTS
1987
1988
1989
1
4
7
138
139
149
30
19
28
18
27
28
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4
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